

What is claimed is:

1. A system for traffic and subscriber service differentiation using multiprotocol label switching (MPLS), the system comprising a plurality of
5 MPLS devices, wherein a plurality of service tiers having different combinations of class of traffic and level of service are established and traffic is separated by at least one MPLS device based upon the plurality of service tiers.
2. The system of claim 1, wherein a plurality of label switched path (LSP)
10 resource classes (colors) are reserved for signaling the plurality of service tiers.
3. The system of claim 2, wherein each service tier is associated with a unique combination of a reserved resource class (color) and a hold priority.
- 15 4. The system of claim 3, wherein at least one LSP is established for each service tier, using a predetermined signaling protocol to signal the unique combination of reserved resource class (color) and hold priority for each LSP.
5. The system of claim 4, wherein the predetermined signaling protocol
20 comprises a RSVP-TE signaling protocol.
6. The system of claim 4, wherein the predetermined signaling protocol comprises a CR-LDP signaling protocol.
- 25 7. The system of claim 1, wherein the plurality of MPLS devices comprises an enhanced MPLS device comprising a traffic/service differentiator for establishing a queue for each of the plurality of service tiers and separating traffic for each service tier into the corresponding queue.

8. The system of claim 7, wherein the enhanced MPLS device further comprises a scheduler for scheduling transmission opportunities for the queues.
9. The system of claim 1, wherein the plurality of MPLS devices comprises a
5 standard MPLS device configured to separate traffic for each service tier.
10. The system of claim 1, wherein each label switched path (LSP) used for service tier traffic is associated with one and only one service tier.
- 10 11. The system of claim 1, wherein the plurality of service tiers support multiple levels of service for a single class of traffic.
12. The system of claim 1, wherein the at least one MPLS device continues to separate traffic based upon the plurality of service tiers during a failure
15 condition.
13. A device for traffic and subscriber service differentiation using multiprotocol label switching (MPLS), the device comprising:
a plurality of queues, each queue associated with a different one of a
20 plurality of service tiers having different combinations of class of traffic and level of service;
a traffic/service differentiator operably coupled to separate traffic for the different service tiers into a corresponding queue of the plurality of queues; and
a scheduler operably coupled to provide transmission opportunities for
25 the plurality of queues.
14. The device of claim 13, wherein each service tier is associated with a unique combination of a resource class (color) from a reserved set of resource classes (colors) and a hold priority.

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20. The method of claim 19, wherein the predetermined signaling protocol comprises a RSVP-TE signaling protocol.
21. The method of claim 19, wherein the predetermined signaling protocol
5 comprises a CR-LDP signaling protocol.
22. The method of claim 19, wherein differentiating traffic and subscriber service based upon the plurality of service tiers comprises:
establishing a separate queue for each service tier; and
10 separating traffic into the separate queues based upon service tier.